CLAIMS:

1. An amphipathic glycopeptide, wherein the glycopolypeptide comprises at least 9 amino acid residues, and wherein at least one of the amino acid residues is glycosylated.

2. The glycopeptide of Claim 1, wherein the amino acid sequence comprises an N-terminal opioid message sequence, a C-terminal address sequence, and a linker sequence between the message sequence and the address sequence.

3. The glycopeptide of Claim 1, wherein the N-terminal sequence is Y-t-G-F- or Y-a-G-F-.

4. The glycopeptide of Claim 1, wherein the N-terminal sequence is Y-t-G-F-L-P-.

5. The glycopeptide of Claim 1, wherein the N-terminal sequence is Y-t-G-F-L-βA-.

6. The glycopeptide of Claim 1, wherein the N-terminal sequence is Y-t-G-F-L-G-G-.

7. The glycopeptide of Claim 1, which is a glycosylated enkephalin.

8. The glycopeptide of Claim 1, which is a glycosylated endorphin.

9. The glycopeptide of Claim 1, which adopts a helical conformation in the presence of a lipid bilayer.

10. The glycopeptide of Claim 1, which is substantially non-helical in water in the absence of a lipid bilayer.

11. The glycopeptide of Claim 1, which is substantially non-helical in water in the absence of a lipid bilayer and adopts a helical conformation in the presence of a lipid bilayer.

12. The glycopeptide of Claim 1, wherein one amino acid residue is glycosylated.

13. The glycopeptide of Claim 1, wherein two amino acid residues are glycosylated.

14. The glycopeptide of Claim 1, which comprises at least one serine residue that is glycosylated.

15. The glycopeptide of Claim 1, which comprises 2 serine residues that are glycosylated.

16. The glycopeptide of Claim 1, which is glycoslated with a glycosyl unit having at most 8 saccharide units.

17. The glycopeptide of Claim 1, which is glycoslated with a glycosyl unit having at most 4 saccharide units.

18. The glycopeptide of Claim 1, which is glycoslated with a glycosyl unit having at most 2 saccharide units.

19. The glycopeptide of Claim 1, which is glycoslated with a glycosyl unit having at most 1 saccharide unit.

20. The glycopeptide of Claim 1, which contains one serine glucoside residue.

21. The glycopeptide of Claim 1, which contains 2 serine glucoside residues.

22. The glycopeptide of Claim 1, which comprises at least 10 amino acid residues.

23. The glycopeptide of Claim 1, which comprises at least 12 amino acid residues.

24. The glycopeptide of Claim 1, which comprises at least 14 amino acid residues.

25. The glycopeptide of Claim 1, which comprises at least 15 amino acid residues.

26. The glycopeptide of Claim 1, which comprises at least 17 amino acid residues.

27. The glycopeptide of Claim 1, which comprises at least 19 amino acid residues.

28. The glycopeptide of Claim 1, which comprises at most 60 amino acid residues.

29. The glycopeptide of Claim 1, which has at most 5% helicity as measured by circular dichroism in water and at least 10% helicity in the presence of a lipid bilayer.

30. The glycopeptide of Claim 1, which crosses the blood-brain-barrier.

31. The glycopeptide of Claim 1, which is selective for at least one receptor selected from the group consisting of the delta opioid receptor, mu opioid receptor and kappa opioid receptor.

32. The glycopeptide of Claim 1, wherein the amino acid sequence comprises an N-terminal non-opioid message sequence, a C-terminal address sequence, and a linker sequence between the message sequence and the address sequence.

33. The glycopeptide of Claim 32, wherein the non-opioid message sequence is from corticotropin releasing factor (CRF), lutenizing hormone (LH), human chorionogonadotropin (hCG), follicle stimulating hormone (FSH), vasoactive intestinal peptide (VIP), bradykinin, vasopressin, neurokinins, substance P or prolactin.

34. A pharmaceutical composition comprising the glycopeptide of Claim 1 and at least one pharmaceutically acceptable carrier and/or excipient.

35. A method of relieving pain, comprising administering an effective amount of the glycopeptide Claim 1 to a subject in need thereof.

36. A method of providing analgesia, comprising administering an effective amount of the glycopeptide Claim 1 to a subject in need thereof.

37. A method of treating anxiety, depression, obesity, anorexia nervosa, phobias, schizophrenia, Parkinson's disease and Alzheimer's disease, comprising administering an effective amount of the glycopeptide Claim 1 to a subject in need thereof.